

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/061415 A1

(51) International Patent Classification⁷: C07B 59/00

(21) International Application Number:
PCT/GB2004/005304

(22) International Filing Date:
17 December 2004 (17.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0329716.5 23 December 2003 (23.12.2003) GB

(71) Applicant (for all designated States except US): GE HEALTHCARE LIMITED [GB/GB]; Amersham Place, Little Chalfont, Buckinghamshire HP7 9NA (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WADSWORTH, Harry, John [GB/GB]; Amersham plc, The Grove Centre, White Lion Road, Amersham Buckinghamshire HP7 9LL (GB). WIDDOWSON, David, Arthur [GB/GB]; Imperial College, Exhibition Road, London SW7 2AZ (GB). WILSON, Emmanuelle [FR/GB]; Imperial College, Exhibition Road, London SW7 2AZ (GB). CARROLL, Michael, Andrew [GB/GB]; School of Natural Sciences - Chemistry, Bedson Building, University of Newcastle, Newcastle upon Tyne NE1 7RU (GB).

(74) Agent: HAMMETT, Audrey, Grace, Campbell; GE Healthcare Limited, Amersham Place, Little Chalfont, Buckinghamshire HP7 9NA (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RADICAL TRAP IN FLUORIDATION OF IODONIUM SALT

(57) Abstract: Decomposition of iodonium salts by a free radical process has been identified as a significant factor in the observed yield variability of fluoridation reactions using said iodonium salts. Accordingly, the inclusion of a free radical trap in the reaction mixture blocks the radical chain decomposition pathway for iodonium salts such that only the reaction leading to fluoridation can occur and the yield of aryl fluoride becomes high and reproducible. The reaction may also be carried out on solid phase. In both the solution and the solid phase the preferred method of the present invention is radiofluoridation.

WO 2005/061415 A1